

release notes

# hp StorageWorks ha-fabric manager

**Product Version:** FW V05.01.00-24/HAFM SW V07.02.00-09

Second Edition (November 2003)

**Part Number:** AA-RUR6B-TE/958-000288-006

These Release Notes contain late-breaking and supplemental information for the HP StorageWorks High Availability Fabric Manager (HA-Fabric Manager).

For the latest version of these Release Notes and other HA-Fabric Manager documentation, access the HP storage website at: <http://www.hp.com/country/us/eng/prodserv/storage.html>.



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HA-Fabric Manager Release Notes  
Second Edition (November 2003)  
Part Number: AA-RUR6B-TE/958-000288-006

## About this Document

These Release Notes describe the contents of the HP StorageWorks high availability fabric manager software kit, and any last-minute additions or notes on the configuration or use of HAFM software.

Be sure to read these notes before installing the HAFM. This information is periodically updated and available on the World Wide Web at:

<http://www.hp.com/country/us/eng/prodserv/storage.html>.

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## Release Notes Information

These Release Notes cover the following major topics:

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## Intended Audience

This document is intended for customers who purchased the HP StorageWorks High Availability Fabric Manager. HAFM Version 07.02.00-09 applies to the 1U rack-mount server only and cannot be installed on the notebook server.

## Other HAFM Documentation

In addition to this guide, HP provides corresponding information:

- *HP StorageWorks HA-Fabric Manager Server Installation Guide, AA-RU5FA-TE*
- *HP StorageWorks HA-Fabric Manager User Guide, AA-RS2CD-TE*
- *HP StorageWorks Director and Edge Switch Glossary, AA-RU5JA-TE*

## CD-ROM Directory Structure

The HAFM software kit includes one CD. The *HP StorageWorks HA-Fabric Manager Documentation and Software CD*, which contains the files necessary to install the *HAFM* applications. The *HP StorageWorks HA-Fabric Manager Documentation and Software CD* also contains the following items at the root level directory:

- `HAFM_ServerInstall.exe` – (Install file for *HAFM* applications)
- `version.txt` – (contains the version number of the *HAFM* applications)
- `copyright.txt` – (contains copyright information)

The `hpClients` directory is also at the root level. This directory contains the remote client install files for the operating system platform noted by the name of the directory in which it resides.

- Unix – (directory containing the remote client install file for UNIX platforms)
  - aix – (directory containing the remote client install file for AIX)  
hpClientInstall.bin—the remote client install file for AIX)
  - hpux – (directory containing the remote client install file for HPUX)  
hpClientInstall.bin—the remote client install file for HPUX)
  - Linux – (directory containing the remote client install file for Linux)  
hpClientInstall.bin—the remote client install file for Linux)
  - Solaris – (directory containing the remote client install file for Solaris)  
hpClientInstall.bin—the remote client install file for Solaris)
- Windows – (directory containing the remote client install file for Windows)  
hpClientInstall.exe—the remote client install file for Windows)
- Docs
  - AA-RU5FA-TE – (HP StorageWorks HA-Fabric Manager Server Installation Guide)
  - AA-RS2CD-TE – (HP StorageWorks HA-Fabric Manager User Guide)
  - AA-RU5JA-TE – (HP StorageWorks Director and Edge Switch Glossary)

## HAFM Software Version 07.02.00-09

The HAFM server has the latest version of the HA-Fabric Manager software pre-installed. It is also contained on the *HP StorageWorks HA-Fabric Manager Documentation and Software CD* (Part Number 516-000024-720). HAFM Version 07.02.00-09 applies to the 1U rack-mount server only and cannot be installed on the notebook server.

All remote clients running down-level versions of HAFM are required to re-install the client application. You must exit HAFM before installing the latest version of HAFM. When logging in to the HAFM server via the remote client, an error message displays stating that the new version must be installed. Follow the instructions to install the new version of the remote client.

## Important Information

This section describes important information related to the HAFM software, the Edge Switch 2/24, Edge Switch 2/32, Director 2/64, and Director 2/140.

### HAFM and Firmware Version Compatibility

[Table 1](#) lists the minimum version of HAFM that can run with the various versions of firmware for the directors and edge switches. HAFM Version 07.02.00-09 allows managing of directors and edge switches running any of the versions of firmware listed in [Table 1](#).

**Table 1: HAFM and Firmware Compatibility**

| Firmware Version | HAFM Version (Minimum)        |
|------------------|-------------------------------|
| 01.01.02         | 04.00.01 (HP EFCM)            |
| 01.02.02-06      | 04.01.02-14 (SDCM)            |
| 01.03.00-35      | 04.02.00-40 (HP EFCM)         |
| 01.04.00-01      | 04.02.00-40 (SDCM)            |
| 02.00.00-33      | 06.00.00-45 (HP EFCM)         |
| 02.00.02-01      | 06.00.02-06                   |
| 04.01.02-04      | 06.03.01-05                   |
| 05.01.00-24      | 07.01.00-09 (Notebook Server) |
| 05.01.00-24      | 07.02.00-09 (1U Server)       |

## Upgrading to the latest Version of Firmware

Upgrading to firmware Version 05.01.00-24 is nondisruptive to attached devices. The edge switch or director is not required to be offline before performing an upgrade operation. Limitations to upgrades are clearly identified if there are any limitations to performing the operation.

Before upgrading firmware, it is highly recommended that you back up the edge switch or director configuration in the event that a failure should occur. Refer to the switch or director *Product Manager* user guide for more information. Embedded Web Server (EWS) also provides an option to print or save product configuration to a file. Refer to the *HP StorageWorks Embedded Web Server User Guide* for more information.

Before upgrading the Director 2/64 or Director 2/140 to Version 05.01.00-24, execute a CTP switchover to assure that the backup CTP card is fully functional.

To execute a CTP switchover, perform the following steps:

1. From Product Manager Hardware view, verify that an amber LED indicator does not display for either CTP card.
2. Right-click on a CTP card and choose **Switchover** from the menu.

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**Note:** The switch or director will lose its Ethernet connection for a short period during the switchover process.

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3. Upgrade firmware to Version 05.01.00-24.

All products must be running firmware Version 04.00.00 or higher before upgrading to Version 05.01.00-24. If a switch or director is operating with a firmware level below 04.00.00, you must upgrade to Version 04.00.00 or higher before installing Version 05.01.00-24.

All products must be running Version 02.00.00 or higher before upgrading to Version 04.01.02-04. Upgrading to Version 04.01.02-04 from Version 02.00.00 or higher is nondisruptive to attached devices.

Firmware that predates the 01.03.00 or 01.04.00 firmware release must first be upgraded to a 01.03.xx or 01.04.xx firmware version, and then upgraded to Version 02.00.00 or higher, before the upgrade to Version 04.01.02-04 can be completed.



## Considerations for Downgrading the Version of Firmware

Directors and edge switches are not required to be offline before performing a firmware downgrade operation. Limitations to downgrades are clearly identified if there are any limitations to performing the operation.

Before downgrading firmware, it is highly recommended that you back up the edge switch or director configuration in the event that a failure should occur. Refer to the switch or director *Product Manager* user guide for more information. Embedded Web Server (EWS) also provides an option to print or save product configuration to a file. Refer to the *HP StorageWorks Embedded Web Server User Guide* for more information.

Downgrading directly to a version prior to 04.00.00 from Version 05.01.00-24 is not allowed. To downgrade to a version before 04.00.00, you must first downgrade to Version 04.YY.ZZ.

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**Note:** The Director 2/140 and Edge Switch 2/24 cannot be downgraded below Version 04.01.00.

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Downgrading directly to a version prior to 02.00.00 from Version 04.YY.ZZ is not allowed. To downgrade to a version before 02.00.00, you must first downgrade to Version 02.YY.ZZ.

Firmware downgrades should not be performed using EWS and Microsoft® Internet Explorer Version 5.00.3315.1000x. If this operation is performed, the download operation may not complete and may eventually time-out leaving the switch with the previous version of firmware.

## Open Trunking Feature is Not Available in Current Release

The Open Trunking feature is not available in Firmware Version 05.01.00-24. Open Trunking feature will be available in a future release.

## Zoning is Disabled by Default

The default zone on the Edge Switch 2/24, Edge Switch 2/32, Director 2/64, and Director 2/140 is disabled by default. Zoning must be configured in order for any devices connected to the switches to communicate.

## Hard Zoning

Hard Zoning is a security enhancement in firmware Version 05.01.00-24 that prevents ports from accessing devices outside their zones. Hard Zoning is enabled by default when using firmware Version 05.01.00-24 or greater and cannot be disabled. All HP-approved host bus adapters (HBAs) limit access to devices within their zones, so you will not see a change in fabric behavior unless you are using nonstandard HBAs. Hard Zoning improves security against intruders that load nonstandard HBA drivers.

Hard Zoning is compatible with legacy zone definitions, including World Wide Name (WWN) and port zoning. You can use your existing zones and zone sets without any changes. There are no changes to the zoning interfaces, so you do not need to modify your zone management practice, documentation, or retrain Storage Area Network (SAN) administrators.

Hard Zoning controls access at the ingress port. When a port attempts to send a frame to a destination outside its zones, the frame is blocked. A Class 2 frame will be fabric rejected, and a Class 3 frame will be dropped.

## Zoning Change RSCN Control

Normally, when a zone set is activated, a fabric format domain Register State Change Notification (RSCN) is sent to all devices in the fabric. With firmware Version 05.01.00-24, you can disable these RSCNs from being sent. This is done using the **Suppress RSCNs on zone set activations** check box on the **Configure Switch Parameters** dialog box.

This feature significantly changes the normal behavior of the fabric. Devices will have no warning when zones change and will not automatically update their zoning information. The ability to suppress RSCNs is disabled (check box is not selected) by default. This feature can be configured through HA-Fabric Manager (HAFM), Embedded Web Server (EWS), and the Command Line Interface (CLI).

## Embedded Web Server (EWS) Changes

With firmware Version 05.01.00-24, the EWS now provides support for configuration of Port Binding. The zoning interface has also been enhanced to allow you to easily add members to a zone that are not directly attached to the locally managed switch. You are presented with a list of all devices that are logged in to the fabric. You can select these devices for addition to a zone.

## Command Line Interface (CLI) Changes

CLI has been enhanced to provide the following benefits:

- Access to symbolic name information in the name server database.
- **Counter Threshold Alerts (CTA)**—Used to configure limits and alerts for any of the supported port statistics fields. You can configure alerts for individual ports, groups of ports, or various port types, based on user-specified counter value exceeded over a specified time duration.

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**Note:** The CTA configuration is cleared upon downgrade to firmware below 05.01.00.

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## SNMP Changes

Firmware Version 05.01.00-24 supports the following management information base (MIB) versions on all products:

- Fabric Element MIB: V1.1
- MIB-II MIB: RFC-1213, non-implemented sections are not included
- FCEOS MIB: V2.0
- SNMP Framework MIB: RFC-2271 (1997/09/30)
- FA MIB: V3.1

## Zoning Limitations

Firmware Version 05.01.00-24 includes the ability to configure large zone sets, including up to 1024 zones and 1024 end ports in a single zone set. [Table 2](#) shows the supported limits for the edge switches and directors.

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**Note:** Hard Zoning will be enforced upon firmware initialization. Devices not conforming to zoning rules will be restricted to their assigned zones.

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**Table 2: Zoning Parameters Supported Limits**

| Zoning Parameter          | Maximum Value |
|---------------------------|---------------|
| Number of end ports       | 1024          |
| Unique zone members       | 1024          |
| Members per zone          | 1024          |
| Zones                     | 1024          |
| Number of zone sets       | 64            |
| Maximum devices supported | 1024          |

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**Note:** The supported number of zones is based on a zone name with a maximum of 32 characters. On all edge switches and directors except the Director 2/140, the maximum number of zones decreases if full 64 character names are used. The supported limits are based on two members per zone.

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Zone set sizes are affected by the number of zones in the zone set, the length of each zone name, the number of members in each zone, and the Interoperability mode of the fabric. Please consult with HP Professional Services or your support representative if you have questions regarding specific zone set configurations.

## Using the Same Firmware

All switches and directors in the same fabric should have the same FW level installed—whether 1 Gbps or 2 Gbps capable.

## Reinstalling Feature Licenses

Feature Licenses (or keys) must be reinstalled after performing a factory reset on a director or edge switch to regain use of the licensed features (e.g., SANtegrity Binding).

## CTP Controls Port Lights

Port lights on the edge switch and director products are controlled by the CTP functionality. Certain activities, such as FW updates, IPLing the CTP, or switching over to the backup CTP (Director) can cause these port lights to extinguish momentarily until control is reasserted by the CTP. The actual FC traffic is not affected during these times.

## Information Displayed on LCD Screen

The fan speed was erroneously omitted from the list of information displayed in the LCD screen of the 1U server in the *HP StorageWorks HA-Fabric Manager Server Installation Guide*. The LCD screen displays the following information:

- Host Name
- System Date and Time
- LAN 1 IP address
- LAN 2 IP address
- FAN speed
  - CPU Fan Speed
  - PWR Fan Speed
  - Sys Fan Speed
  - Sys Fan 1 Speed
  - Sys Fan 2 Speed
- CPU temperature
- Hard disk space
- Virtual Memory capacity
- Physical Memory capacity

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**Note:** After you enter the IP address and the server reboots, the LCD screen remains blank for a few minutes during boot up. This is normal. After a few minutes the screen displays “Welcome”.

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## Regulatory Information

The following regulatory information was erroneously omitted from the *HP StorageWorks HA-Fabric Manager Server Installation Guide*.

## TELECOMMUNICATIONS NOTICE FOR JAPAN

The modem supplied with this equipment, part number MT5634ZPX-PCI, is approved for use in Japan. The Japanese approval number is A00-1160JP.

## Known Issues

This section describes the known issues related to the 1U HAFM server and the HAFM software.

### HAFM Server LCD Screen Displays Wrong IP Address

During configuration of HAFM Server networking, the following items must be taken into consideration:

- When setting the IP address using the Liquid Crystal Display (LCD) console display on the server, the IP address shown in the window is for the other network interface. (For example, if you are changing the LAN 1 address, the LAN 2 address is shown in the display window).  
  
Please input the full address that is desired for the chosen interface—this operation implements the interface that you have targeted with the address in the set window.
- If the preset IP addresses are changed before the HAFM server is connected to the Ethernet network, the address changes are not shown on the LCD console and do not take effect until after the HAFM server is rebooted.

## Some IP Addresses must be Avoided

When you select IP addresses for edge switches and directors, and also if you select a static IP address for the HAFM server, do not use IP addresses in the following range:

- 192.168.0.0 through 192.168.0.255—This subnet is used internally to the HAFM server. Using an IP address in this range causes the call-home feature to function incorrectly.

## Show Routes “Select a Source Node” Panel may be Blank

If you first logon to HAFM and immediately go to **Fabric View** and click **Fabrics > Show Route**, the **Select a Source Node** panel may be blank.

### Workaround

Going to a different view first, e.g., **Product View** or **Hardware View** for a director or edge switch, will prevent this from occurring.

## Director and Edge Switch may be Displayed With WWN even if Display Option “Product Name” is Selected

In the **Fabric View**, the directors and edge switches may have their WWN displayed as identifier even if **Product Name** is selected.

### Workaround

Changing the **Display Option** to another setting and back to **Product Name** will cause the Product Name of directors and edge switches to display correctly.

## “Port Properties” Option may be Unavailable in Node List View

If you switch from **Hardware View** to **Node List View**, and choose the **Product** menu, the **Port Properties** option may not be available.

### Workaround

You must first select a line for a port in the **Node List** for the **Port Properties** option to be available, no port is selected by default. Alternatively, **Port Properties** may be viewed by right-clicking the line for a port in the **Node List** and choosing **Port Properties**, or from other views like **Hardware View** or **Port List View**.

## Port Diagnostics on All Ports is not Available When All Ports of an Edge Switch are not Installed and Enabled

The Edge Switch 2/24 and Edge Switch 2/32 basic units have 8- and 16-ports installed, respectively. The remaining ports can be enabled by purchasing additional ports and licenses to enable them, in 8-port increments. If all of the ports are not installed, **Port Diagnostics** must be run on one port at a time, and the option to run diagnostics on all ports is not available.

## Open Systems Management Server

Under the HAFM **Product Manager > Hardware View** menus, the **Configure > Management Server** . . menu option will result in a pop-up dialog. This dialog states "This feature has not been installed. Please contact your sales representative." This feature is not currently available.

## Support for Speed Auto-Negotiate

Auto-negotiate is supported. However, HP recommends that the port speed for E\_Ports (for Interswitch Links, or ISLs) be set to a specific port speed (1Gb/sec or 2Gb/sec, as appropriate for the speed of the directors or edge switches being connected) instead of to Negotiate. Using a specific port speed decreases the time for a fabric build in response to some perturbation event in the fabric. Similarly, setting a specific port speed for N\_Ports also decreases fabric build time. However, setting a specific port speed for N\_Ports is not required.

There are a few older HBA devices that do not always succeed in logging in to a switch port when the port speed is set for auto-negotiate.

## Workaround

If an older HBA is found to have difficulty logging into a switch port that has its port speed configured as **Negotiate**, configure that port speed to **1Gb/sec** or **2Gb/sec** according to the operation speed of the HBA connected to that port.



## Losing LAN Connection to the HAFM Server When Logged into the HAFM Application

If the LAN connection to the HAFM server is lost while you are logged into the *HAFM* application, the application will stop. When the connection is restored, the following error message displays “Connection to the HAFM server lost. Click OK to exit the application.”

### Workaround

The LAN connection must be restored and the *HAFM* application must be restarted. Stopping the *HAFM* application has no impact on the Fibre Channel operations of any switch or director. Monitoring switch operations, logging events, and implementing configuration changes are interrupted only while the LAN is not connected.

## Effect of No LAN Connection to HAFM Server During Boot Up

If the HAFM server has no LAN connection while booting up, but is connected after booting up, the remote client sessions to the HAFM server will not be allowed. Also, the IP address that displays in the HAFM Product View window title bar may be incorrect.

### Workaround

This can be corrected by restoring the LAN connection, and rebooting the server. Rebooting the server has no impact on the Fibre Channel operations of any switch or director. Only monitoring switch operations, logging events, and implementing configuration changes are interrupted.

## Issue Concerning HAFM Remote Client Access to the HAFM Server with Dual LAN Configuration

When using a single public LAN connection at the HAFM server for all Ethernet communications to:

- Directors and edge switches that the HAFM server manages
  - Computers seeking remote client access to the HAFM server
  - SAN management applications such as hp OpenView SAN Area Manager
- the single LAN connection operates correctly for all these functions.

When using two LAN connections (public and private) at the HAFM server, Microsoft Windows and the *HAFM* application determine the following:

- Which LAN is to be the private LAN for communication between the HAFM server, and the directors and edge switches that the HAFM server manages.
- Which LAN is to be the public LAN for communication between the HAFM server and computers seeking remote client access to the HAFM server.

The issue arises because either LAN connection on the HAFM server can be the public LAN or the private LAN. Though the directors and edge switches can be managed via either LAN, the public LAN is the only one that can support remote client access. Thus, if one attempts to access the HAFM server via a remote client session and is unknowingly using what has been designated as the private LAN, the remote session will not be allowed. The IP address that the HAFM server has determined to be the public LAN which supports remote client access, displays in the title bar of the main window of the *HAFM* application which displays after logging into the *HAFM* application.

The *HAFM* application designates the public LAN as the first LAN detected whose IP address is not the reserved private subnet 10 . x . x . x. Thus, if neither IP address is 10 . x . x . x, the first LAN detected by HAFM is designated as the public LAN. This order of detection is influenced by Microsoft Windows and not guaranteed.

For a dual LAN configuration, both LANs must be connected when the HAFM server is booted up. If only one is connected, the HAFM server interprets this as a single LAN configuration, and the connected LAN will be designated as the LAN for remote client sessions.

## Workaround

There are two ways to assure the public and private designations of the LANs.

- If you use a private LAN IP address, i.e. 10.x.x.x, this causes this LAN to be designated as the private LAN. You must also have the public LAN connection active when the HAFM server is booting up, or else the *HAFM* application will interpret this as a single LAN connection configuration, and the 10.x.x.x LAN will be designated as the LAN for remote client sessions.
- You can configure a specified Ethernet interface on the HAFM server to be the public LAN (to listen for remote client connections). To configure this feature, you must manually edit a file on the HAFM server to explicitly specify which IP address HAFM should use as the public LAN.

Perform the following to configure an Ethernet interface:

- a. Open the *config.properties* file in directory `C:\Program Files\HAFM\`, and add the following line:

```
ServerRmiIpAddress=x.x.x.x
```

where `x.x.x.x` is the IP address assigned to one of the Ethernet LAN adapters which is to be used as the public LAN. This entry is case sensitive and must be made exactly as shown. Once this line has been added, the HAFM server must be rebooted.

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**Note:** This does not impact the Fibre Channel operations of any edge switch or director. Only monitoring switch operations, logging events, and implementing configuration changes are interrupted.

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If the public LAN IP address of the HAFM server is ever changed, this file must be edited again to reflect the new IP address.